AUTHOR INDEX

to Volume 146, May–August 1997

Adachi-Yamada, T., 263
Akashi, H., 295
Alvarez, G., 717
Amon, A., 781
Andrew, D. J., 595
Aneja, P., 1211
Ashburner, M., 919
Asmussen, M. A., 1165
Atchley, W. R., 629
Athanasiou, A., 669
Ausubel, F. M., 381
Azevedo, R. B. R., 881

Bailey, L. A., 499
Balakireva, M. D., 253
Barbadilla, A., 89, 695
Barsh, G. S., 1407
Barton, N. H., 427
Basten, C. J., 1165
Baur, M., 1275
Belenkaya, T., 583
Benassayag, C., 619, 939
Betran, E., 89, 695
Bhadra, U., 903
Bickel, S. E., 1319
Birchler, J. A., 903
Boissinot, S., 1019
Boone, C., 39
Boube, M., 619, 939
Boursot, P., 1019
Bowen, J., 135
Bradeen, J. M., 1101
Bradley, D. G., 1071
Brakefield, P. M., 287
Bregliano, J.-C., 1333
Brock, T. D., 1207
Brown, A. J. L., 607
Brown, B. W., 1061
Bruns, P. J., 135
Bucher, E. A., 165
Bullard, S. A., 481, 1265
Burgoyne, P. S., 1399

Cai, G.-q., 1211
Carmona, J. A., 983
Carrasquillo, M. M., 1407
Carvalho, A. B., 891
Cassidy-Hanley, D., 135
Champion, L. E., 1381
Chanal, P., 207
Chanet, R., 1239
Chang, A.-M., 1049
Charles, T. C., 1211
Chestnut, K., 655
Chrome, C., 1265
Chung, S., 185
Cole, E., 135
Collins, F. H., 965
Coluzzi, M., 239
Corces, V. G., 583
Cornel, A. J., 965
Coulson, D., 919
Cowley, D. E., 629
Cox, E. C., 443
Cribbs, D. L., 619, 939
Crute, I. R., 381
Cunningham, P., 1071

Damania, Z., 275
Danzi, S. E., 1287
Das, O. P., 1101
David, P., 335
Dean, A. M., 27
Dellaporta, S., 681
della Torre, A., 239
Demesure, B., 1475
Demopulos, D., 681
Dennis, E. S., 1131
Dolferus, R., 1131
Dominska, M., 491, 769
Dong, K., 1311
Donghong, Z., 121
Doniach, T., 149
Donnelly, P., 1185
Dorer, R., 39
Dove, W. F., 1049
Ducau, J., 1333
Dumolin-Lapègue, S., 1475

Ebbole, D. J., 499
Eberl, D. F., 951
Edwards, S. V., 655
Eggleston, W. B., 681
Eisenmann, D. M., 553
Evans, D. H., 1253
Evgen'ev, M. B., 583

Facca, C., 1239
Faye, G., 1239
Fehon, R. G., 245
Feingold, E., 1011
Feldman, J. F., 525
Ferris, P. J., 859
Filipp, D., 253
Fineschi, S., 1475
Fire. A., 227
Flavell, A. J., 607
Fox, M. E., 1253
French, V., 287
Fristrom, D., 275
Fristrom, J. W., 275
Fu, Y.-X., 1489
Fundele, R., 1399
Furano, A. V., 641

Gaertig, J., 135
Galbraith, A. M., 481
Galbraith, D. B., 1407
Galitski, T., 751
Gallaher, N. M., 595
Gardiner, J. M., 1265
Gatewood, B. K., 165
Gaut, B. S., 393
Gay, F., 1333
Geiser, J. R., 849
George, H., 1345
Georgiev, P., 583
Gibson, A. W., 1287
Giot, L., 1239
Giver, C. R., 1429
Glass, N. L., 1299
Glazebrook, J., 381
Goddard, M. E., 409
Goodenough, U. W., 859
Goodman, R. H., 595
Gorman, M. J., 965
Gorovsky, M. A., 135
Gracheva, E., 583
Greenwell, P. W., 491
Grewal, S. I. S., 1221
Grosovsky, A. J., 1429
Gubb, D., 919
Gunn, T. M., 1407
Gvozdev, V. A., 253

Hagstrom, K., 1365
Hamada, M., 355, 369
Hameister, H., 1399
Hammerschmidt, R., 381
Hammond, J. A., 871

Hartwell, L. H., 39
Hasegawa, M., 355
Hata, M., 263
Hayward, B. E., 641
Hedgecock, D., 321
Himberg, M., 355
Hodgkin, J., 149
Hoeschele, I., 735
Holub, E. B., 381
Hook, G., 1381
Hoyt, M. A., 849
Hu, Z., 1287

Ignacio, D., 983
Innan, H., 1441
Inoue, Y. H., 263
Irelan, J. T., 509
Irie, K., 263
Ishikawa, K., 111

James, A. C., 881
Jarne, P., 335, 973
Jiao, K., 481
Jinks-Robertson, S., 69
Justy, F., 973

Kagan, I., 381
Kaneko, I., 111
Katsuya, S., 111
Kelly, J. K., 1197
Kelly, W. G., 227
Kermicle, J., 681
Kerth, G., 1035
Kido, Y., 355
Kim, J., 39
Kim, J. H., 1287
Kim, S. K., 553
Kimbrough, T., 39
King, D. P., 1049
King, P. J., 401
Kiyoshi, O., 101
Klaczko, L. B., 891
Klar, A. J. S., 1221
Kleckner, N., 797, 817
Klein, F., 781
Kobayashi, I., 9
Kogan, G. L., 253
Kohli, J., 1275
Kole, C., 1123
Kroll-Conner, P., 185
Kuiper, M., 1123
Kurst, A., 835
Kusano, K., 9

Labouesse, M., 207
Lage, P. Z., 607
Lagziel, A., 442
LaJeunesse, D. R., 245
Lamb, N. E., 1011
Lamoreux, M. L., 1407
Lasko, P., 951
Latta, R. G., 1153
Laurençon, A., 1333
Le Corre, V., 1475
Lee, J. H., 135
Lefebvre, P. A., 121
Levy, A. A., 1143
L'Hernault, S. W., 567
Li, Y. F., 57, 1253
Lim, Y.-M., 263
Lin, J.-Z., 1115
Lipkin, E., 442
Loftus, R. T., 1071
Loidi, J., 79
Lorenz, L. J., 951
Lovett, S. T., 457
Luo, Z. W., 1173
Lydiate, D. J., 1123

Machaca, K., 567
Machordom, A., 983
MacHugh, D. E., 1071
Mackay, T. F. C., 607
Macke, J. P., 849
Madi, L., 499
Mak, P. Y. A., 1087
Malone, R. E., 481, 1265
Mann, B. A., 447
Martínez, E. C., 1087
Mason, J. M., 1381
Masson, J. E., 401
Matsumoto, K., 263
Mayer, F., 1035
McBride, S. A., 499
McCartney, B. M., 245
McGoldrick, D. J., 321
McKee, A. H. Z., 797
McKee, A. H. Z.
Melby, T. E., 245
Melnick, M. B., 951
Merino, S. T., 531
Mert, F., 381
Merzagora, L., 239
Messing, J., 1101
Metzenberg, R. L., 531
Meuwissen, T. H. E., 409
Meyer, A., 995
Michels, C. A., 1287
Milkman, R., 745
Miller, K. A., 1407
Mitton, J. B., 1153
Miyashita, N. T., 1441
Monteiro, A., 287
Montgomery, M. K., 227
Morgan, L. W., 525
Muller, M., 1365
Murphy, T., 69
Muse, S. V., 393

Nag, D. K., 835
Nairz, K., 79
Nakashima, H., 101
Nau, J. J., 481
Navarro, A., 89, 695
Nelson, M., 531
Neuman, T., 345
Nielsen, R., 711
Nishi, Y., 263
Nishida, Y., 263
Nordborg, M., 1185, 1501

Okada, N., 355, 369
Opperman, C. H., 1311
Oren, T., 245
Orr-Weaver, T. L., 1319
Orth, A., 1399
Osborn, T. C., 1123
Osterman, J. C., 1131
Otto, S. P., 723
Owaki, M., 111

Pal-Bhadra, M., 903
Park, L., 369
Parkin, I. A. P., 1123
Parshikov, A., 583
Partridge, L., 881
Paskewitz, S. M., 965
Paszkowski, J., 401
Peakcock, W. J., 1131
Perrimon, N., 951
Petes, T. D., 491, 769
Petit, R. J., 1475
Petri, B., 1035
Pinto, L. H., 1049
Powell, J. R., 239
Preston, R. R., 871
Prinz, S., 781
Prout, M., 275

Raper, C. A., 541
Raudaskoski, M., 541
Redfield, R. J., 27
Reis, R. J. S., 1417
Reist, J. D., 355
Reule, M., 1399
Ritland, K., 1115
Roberts, B. T., 849
Rogers, E. E., 381
Roote, J., 919
Rose, R. E., 595
Roth, J. R., 751

Rothman, J. H., 185
Rozas, J., 89
Ruiz, A., 695

Sakagami, K., 9
Samarina, O. P., 583
Sanjur, O. I., 983
Satta, Y., 655
Saupe, S. J., 1299
Saveson, C. J., 457
Sayeed, S., 69
Schaeffer, S. W., 295
Schär, P., 1275
Schedl, P., 1365
Schlötterer, C., 309
Schneider, C., 1275
Schrag, M. R., 27
Schubert, A., 1399
Selker, E. U., 509
Serachitopol, D. M., 1061
Seroude, L., 619, 939
Severson, D. W., 965
Shain, D. H., 345
Shalev, G., 1143
Shammas, M. A., 1417
Sharpe, A. G., 1123
Sherman, S. L., 1011
Shore, J. S., 669
Shrimpton, A. D., 607
Shriver, M. D., 1071
Silverstone, A. L., 1087
Simon, M., 1239
Slaugh, J. M., 447
Smith, G. R., 57, 1253
Smolik, S. M., 595
Soller, M., 442
Sood, V., 951
Soong, J., 275
Specht, C. A., 541
Sun, T.-P., 1087

Takahashi, J. S., 1049
Takahashi, N. K., 9
Takasaki, N., 369
Tautz, D., 309
Terauchi, R., 1441
Terns, R. M., 185
Terracol, R., 1345
Thompson, R., 1173
Tikhomirova, T., 583
Timmermans, M. C. P., 1101
Travisano, M., 471
Trenear, J., 919
Trick, M., 1123
Tsuda, L., 263
Tsuge, T., 111
Tsujimoto, T., 111
Tulin, A. V., 253
Turek, F. W., 1049

Uimari, P., 735

Vaillancourt, L. J., 541
Vaz, S. C., 891
VerPlank, L. A., 135
Viard, F., 973
Vitaterna, M. H., 1049
Vogl, C., 309
Vrijenhoek, R. C., 983

Wakeland, E. K., 655
Walker, E. L., 681
Wang, J., 1453, 1463
Weil, M. M., 1061
Whitlock, M. C., 427, 723
Wierdl, M., 769
Wilkinson, G. S., 1035
Wojciechowicz, L. A., 1287
Woolliams, J. A., 1173
Wright, F. A., 417
Wyman, D. W., 1319

Xia, S. J., 1417
Xu, S., 227, 629

Yamaki, T., 369
Yamamoto, K., 9
Yelagin, V., 583
Ying, C., 355
Yoshikura, H., 9

Zapata, C., 717
Zardoya, R., 995
Zavanelli, M., 641
Zechner, U., 1399
Zhang, B., 1287
Zhu, J., 185
Zook, M., 381
Zuber, M. X., 345

SUBJECT INDEX

to Volume 146, May-August 1997

Adaptation
Escherichia coli, environmental effects, 471
fixation probability in populations of changing size, 723
Adhesion, mutations affecting cell adhesion in *Drosophila melanogaster*, 275
Alcohol dehydrogenase, cloning Arabidopsis and rice class III alcohol dehydrogenase genes, 1131
Allozyme loci
fixation, segregation, and linkage in inbred oyster families, 321
viability-genotype relationships in *Spisula ovalis*, 335
Alternaria alternata, circular DNA plasmid, 111
Anopheles gambiae, melanotic encapsulation of foreign bodies, QTL for, 965
Anopheles gambiae Complex, inversion introgression in, 239
Arabidopsis spp., phytoalexin-deficient (*pad*) mutants, resistance in plant-pathogen interactions, 381
Arabidopsis thaliana
flowering time QTLs, comparison with *Brassica rapa* and *B. napus*, 1123
gibberellin signal transduction, *rga* locus, 1087
microsatellite polymorphisms, 1441
mutants hypersensitive to X-ray-induced DNA damage, 401

Bacterial transformation, evolution, 27
Bacteriophage P22, transduction of low-copy number plasmids, 447
Bayesian linkage analysis, mapping linked QTL, 735
Bead model system, QTL mapping, encapsulation locus in *Anopheles gambiae*, 965
Bicyclus anynana, eyespot shape, genetic and developmental aspects, 287
Brassica rapa, flowering time QTLs, comparison with *B. napus*, and *Arabidopsis thaliana*, 1123
Breeding
genetics of mating system divergence between *Mimulus guttatus* and *M. platycalyx*, QTL mapping, 1115
genotype selection to rapidly breed congenic strains (mouse), 1061
Bulinus truncatus, population dynamics inferred from temporal survey of microsatellite variability, 973

Caenorhabditis elegans
ectodermal cell fate, 207
epidermal specification and patterning, 185
let-858, somatic and germline expression, 227
mup-4 locus, 165
natural variation and copulatory plug formation, 149
spermatogenesis, *spe-5* phenotypic characterization, 567
temperature-sensitive mutation in *let-60 ras*, 553
Camalexin, in *Arabidopsis*-pathogen interactions, 381
Cattle, microsatellite variation in taurine and zebu cattle, 1071
Cell differentiation, chromosome changes (*Perspectives*), 1
Chlamydomonas reinhardtii
FAR1 regulatory locus, 121
mating type, *mid* (minus dominance) gene in, 859
Chloroplast genome
chloroplast DNA pattern variation of white oaks in Europe, 1475
genetic differentiation in *Pinus flexilis* James, 1153
nucleotide substitution rates among chloroplast loci, 393
Chromatin, diminution (*Perspectives*), 1
Chromosome(s)
chromosome changes in cell differentiation (*Perspectives*), 1
ectopic recombination in haploid yeast, 79
estimating meiotic exchange in humans, 1011
inversion introgression in *Anopheles gambiae* Complex, 239
meiotic crossing over and segregation in yeast, 69
PHB degradation loci, *Rhizobium (Sinorhizobium) meliloti*, 1211
Circadian rhythm
antimorphic behavior of *Clock* mutation (mouse), 1049
cys-9 mutation and circadian conidiation rhythm in *Neurospora crassa*, 101
temperature-sensitive clock mutant (*period-6*) in *Neurospora crassa*, 525
Cloning, Arabidopsis and rice class III alcohol dehydrogenase genes, 1131
Coalescent, standard structured coalescent, time scales in the coalescent, 1501
Coalescent theory, for partial selfing population, 1489
Coelacanths, complete DNA sequence of mitochondrial genome of coelacanth *Latimeria chalumnae*, 995
Cohesion, centromeric, *ord* mutants in *Drosophila*, 1319
Colon cancer, hereditary nonpolyposis, *mutS*, proofreading and human cancer (*Perspectives*), 443
Complementation analysis, antimorphic behavior of *Clock* mutation (mouse), 1049
Congenic strains, genotype selection to rapidly breed congenic strains (mouse), 1061
Conidiation, *Neurospora crassa*
cys-9 mutation and, 101
rco-3 in, 499
Copulatory plug formation, *Caenorhabditis elegans*, 149
Crassostrea gigas, inbred families, fixation, segregation, and linkage of allozyme loci in, 321

Crossing over
in inversion heterokaryotypes, recombination and gene flux, 695
meiotic, chromosome disjunction at meiosis I in yeast, 69
Cytonuclear disequilibria, exact test, 1165
Cytosine methylation, repeat-induced point mutation (RIP), gene silencing in *Neurospora crassa*, 509

Deficiency screen, epidermal specification and patterning in *Caenorhabditis elegans*, 185
Deletion, hyperdeletion in *E. coli* replication mutants, 457
Development. *See* Embryogenesis; Growth and development
Developmental trajectory, restricted index selection of mice, 629
Distyly, molecular genetics, *Turnera* spp., 669
Divergence, *Escherichia coli*, environmental effects, 471
DNA
amplification (*Perspectives*), 1
chloroplast
genetic differentiation in *Pinus flexilis* James, 1153
pattern variation of white oaks in Europe, 1475
complete DNA sequence of mitochondrial genome of coelacanth *Latimeria chalumnae*, 995
double-strand breaks
ectopic recombination in maize, 1143
palindrome-induced, in *Saccharomyces cerevisiae*, 835
microsatellite (repetitive tracts). *See* Microsatellites
mitochondrial
genetic differentiation in *Pinus flexilis* James, 1153
geographic variation and molecular divergence (mouse), 1019
repeat array evolution in D-loop region (bat), 1035
plasmid, *Alternaria alternata*, 111
sequence analysis, gene conversion tracts, 89
sequence data, estimation of selfing rate, 1185
DNA damage, X-ray-induced, *Arabidopsis thaliana* X-ray-hypersensitive (*xrs*) mutants, 401
DNA polymerase δ, yeast, in DNA repair, 1239
DNA repair
inducible, *Drosophila melanogaster* female germ line, 1333
mismatch repair in *Schizosaccharomyces pombe*, *pms1* gene and, 1275
yeast DNA polymerase δ in, 1239
Drosophila spp.
bithorax complex, *iab-7* PRE pairing-sensitive silencing of *mini-white*, 1365
effects of *P* element insertion on *yellow* gene expression, 583
embryogenesis, *dCREB-A* in, 595
enhancement of *decapentaplegic* by *vrille*, 1345
homeotic structure-function relationships for *proboscipedia* in, 939
MAP kinase kinase mutations, 263
ord gene, mutational analysis, 1319
Ras1 signaling and homeotic control of segmental differentiation in, 619
selection and frequency distributions of "silent" polymorphisms, 295
sex-influenced broad-spectrum modifier, 903
X chromosome reverse genetic analysis, 245
Drosophila mediopunctata, polymorphism for *Y*-linked suppressors of *sex-ratio* in, 891
Drosophila melanogaster
bristle number QTL (*smooth*), 607
female germ line, inducible DNA repair, 1333
germ-line effects of *mu2*, 1381
heterochromatic *Stellate* repeats, 245
mutations affecting cell adhesion in, 275
phenotypic plasticity in response to temperature in a latidudinal cline for development time and body size, 881
polymorphism at microsatellite loci, 309
RNA helicase and position-effect variegation in, 951
synapsis and *white* expression, 919

Effective population size, subdivided populations, 427
dioecious species, 1465
monoecious species with partial selfing, 1453
Embryogenesis
Caenorhabditis elegans
ectodermal cell fate, 207
epidermal specification and patterning, 185
mup-4 in, 165
somatic and germline expression of *let-858*, 227
Drosophila, *dCREB-A* in, 595
Xenopus laevis, E-protein gene expression, 345
Endoreduplication (*Perspectives*), 1
Environment, adaptation and divergence in *Escherichia coli*, 471
Epidermis, specification and patterning in *Caenorhabditis elegans*, 185
Escherichia coli
adaptation and divergence, environmental effects, 471
hyperdeletion in *E. coli* replication mutants, 457
mutS, proofreading and human cancer (*Perspectives*), 443
recombination and population structure (*Perspectives*), 745
Evolution
adaptive evolution and fixation probability in populations of changing size, 723
bacterial transformation, 27
evolutionary dynamics of *Mhc* class II DR genes of mice, 655
microsatellites
likelihood approach to microsatellite population samples, one-step mutation vs. multistep mutation model, 711
variation in taurine and zebu cattle, 1071

nuclear-cytoplasmic data, exact test for cytonuclear disequilibria, 1165
nucleotide substitution rates among chloroplast loci, 393
Exact test, for cytonuclear disequilibria, 1165
Extremophiles, discovery of (*Perspectives*), 1207
Eyespot shape, *Bicyclus anynana*, genetic and developmental aspects, 287

Facultative heterochromatinization (*Perspectives*), 1
Fibroblast(s), replication-dependent recombination in human fibroblasts, 1417
Fibrous body-membranous organelle (FB-MO) complexes, *Caenorhabditis elegans* spermatogenesis, 567
Fixation
allozyme loci in inbred oyster families, 321
fixation probability in populations of changing size, 723
F-statistics, subdivided populations
dioecious species, 1453
monoecious species with partial selfing, 1463

Gene(s)
Adh, cloning Arabidopsis and rice class III alcohol dehydrogenase genes, 1131
CIN1,2,4, microtubule-stabilizing pathway in *Saccharomyces cerevisiae*, 849
COM1/SAE2, recombination in *Saccharomyces cerevisiae*, 781
cys-9, circadian conidiation rhythm in *Neurospora crassa*, 101
dCREB-A, *Drosophila* embryogenesis, 595
Dmrnahel, enhancement of position-effect variegation in *Drosophila melanogaster*, 951
Dsor1, activities in *Drosophila* and yeast MAP kinase cascades, 263
E-protein gene expression in *Xenopus laevis*, 345
FAR1, *Chlamydomonas reinhardtii*, 121
gene amplification (*Perspectives*), 1
let-858, *Caenorhabditis elegans*, 227
lin-26, *Caenorhabditis elegans*, 207
Low (*Lightener of white*), broad spectrum modifier in *Drosophila* spp., 903
MAL-activator genes, *Saccharomyces cerevisiae*, constitutive mutations, 1287
Mhc class II DR genes of mice, evolutionary dynamics, 655
mid (minus dominance), mating type in *Chlamydomonas reinhardtii*, 859
mup-4, *Caenorhabditis elegans*, 165
ord, *Drosophila*, mutational analysis, 1319
Pen1, melanotic encapsulation in *Anopheles gambiae*, 965
pms1, mismatch repair in *Schizosaccharomyces pombe*, 1275
proboscipedia, homeotic structure-function relationships for, 939
Ras1, signaling and homeotic control of segmental differentiation in *Drosophila*, 619
rco-3, glucose transport and conidiation in *Neurospora crassa*, 499
rec14, *Schizosaccharomyces pombe*, 1253
rec16, regulation of meiotic events in *Schizosaccharomyces pombe*, 57
REC103, meiotic recombination in yeast, 1265
SAE (Sporulation in the Absence of Spo Eleven), 797. *See also* Gene(s), *COM1/SAE2*
SAE2, 797
SAE1 and *SAE3*, 817
smooth, bristle number QTL in *Drosophila melanogaster*, 607
spe-5, *Caenorhabditis elegans* spermatogenesis, 567
Stellate, heterochromatic cluster in *Drosophila melanogaster*, 253
vrille, enhancement of *decapentaplegic* in *Drosophila*, 1345
white, in *Drosophila melanogaster*, topological constraints on transvection between, 919
yellow, effects of *P* element insertion on expression in *Drosophila*, 583
Gene conversion
in DNA sequences, 89
in inversion heterokaryotypes, recombination and gene flux, 695
TK1 mutations in TK6 human lymphoblastoid cell line, 1429
Gene flux, recombination and gene flux in inversion heterokaryotypes, 695
Gene silencing
iab-7 PRE pairing-sensitive silencing of *mini-white* in *Drosophila* spp. bithorax complex, 1365
in *Neurospora crassa*, 509
Genetic variation, phenotypic plasticity in response to temperature in a latidudinal cline for development time and body size in *Drosophila melanogaster*, 881
Genome, complete DNA sequence of mitochondrial genome of coelacanth *Latimeria chalumnae*, 995
Genotype, viability-genotype relationships in *Spisula ovalis*, 335
Gibberellins, *rga* locus in *Arabidopsis thaliana*, 1087
Glucose transport, *Neurospora crassa*, *rco-3* in, 499
Growth and development
developmental trajectories in mice, restricted index selection, 629
eyespot shape in *Bicyclus anynana*, 287

Heterochromatin, *Stellate* repeats in *Drosophila melanogaster*, 245
Heterodera glycines, parasitism, genetic analysis, 1311
Histone expression, in *Drosophila* spp., sex-influenced modifier, 903
Human lymphoblastoid cell line TK6, *TK1* mutations in, gene conversion and, 1429

Hybrids/hybridization
hybridogenetic reproduction in *Tropidophoxinellus alburnoides* Complex, 983
introgressive hybridization, inversions in *Anopheles gambiae* Complex, 239
placental dysplasia in X^PO mice, 1399
Hypodermis, *Caenorhabditis elegans*
lin-26 expression and, 207
mup-4 locus and, 146

Inbreeding depression, fixation, segregation, and linkage of allozyme loci in inbred oyster families, 321
Infinite allele model, microsatellite polymorphisms in *Arabidopsis thaliana*, 1441
Integrins, 275
Interlocus genetic associations, test of neutrality based on, 1197
Inversion, inversion introgression in *Anopheles gambiae* Complex, 239
Inversion polymorphism, protected, 717
Isoelectric focusing, morph-specific proteins of distylous *Turnera* spp., 669

Likelihood ratio test, microsatellite evolution, one-step mutation vs. multistep mutation model, 711
Linkage disequilibrium, 1197
Linkage mapping, robustness of single-gene models, 417
Locus effect, nucleotide substitution rates among chloroplast loci, 393

Magnesium, magnesium-sensitive "*Chameleon*" mutants in *Paramecium tetraurelia*, 871
Maize
Ac-induced homologous recombination, 1143
insertion of *P Instability Factor (PIF)* at *r* locus, 681
meiotic recombination, genetic variability in, 1101
Major histocompatibility complex (MHC), evolutionary dynamics at *Mhc* class II DR genes of mice, 655
MAP kinase (mitogen-activated protein kinase), *Dsor1* activities in *Drosophila* and yeast MAP kinase cascades, 263
Mapping
antimorphic behavior of *Clock* mutation (mouse), 1049
linkage mapping, robustness of single-gene models, 417
QTL
flowering time QTLs in *Brassica rapa*, *B. napus*, and *Arabidopsis thaliana*, 1123
genetics of mating system divergence between *Mimulus guttatus* and *M. platycalyx*, 1115
mapping linked QTL using Bayesian linkage analysis and Markov chain Monte Carlo algorithms, 735
melanotic encapsulation of foreign bodies in *Anopheles gambiae*, 965
Markov chain Monte Carlo algorithms, mapping linked QTL, 735
Mating, default mating in *Saccharomyces cerevisiae*, 39
Mating type
Bβ1 mat locus in *Schizophyllum commune*, 541
Chlamydomonas reinhardtii, mid (minus dominance) gene in, 859
directionality of switching, *Schizosaccharomyces pombe*, 1221
Megaplasmids, PHB degradation loci, *Rhizobium (Sinorhizobium) meliloti*, 1211
Meiosis
crossing over and segregation in yeast, 69
palindrome-induced meiotic recombination in *Saccharomyces cerevisiae*, 835
recombination and meiosis in *Saccharomyces cerevisiae*, 481
Schizosaccharomyces pombe, rec16 regulation, 57
Meiotic drive, polymorphism for *Y*-linked suppressors of *sex-ratio* in *Drosophila mediopunctata*, 891
Microsatellites
evolution, likelihood approach to microsatellite population samples, one-step mutation vs. multistep mutation model, 711
instability, in yeast, 769
microsatellite polymorphism in *Drosophila melanogaster*, 309
microsatellite variation in taurine and zebu cattle, 1071
polymorphisms in *Arabidopsis thaliana*, 1441
stabilization by variant repeats in *Saccharomyces cerevisiae*, 491
temporal variation, in *Bulinus truncatus*, 973
Microtubules, stability, in *Saccharomyces cerevisiae*, *CIN1,2,4* microtubule-stabilizing pathway, 849
Mimulus spp., genetics of mating system divergence between *Mimulus guttatus* and *M. platycalyx*, QTL mapping, 1115
Mismatch repair (MMR), in *Schizosaccharomyces pombe*, *pms1* gene and, 1275
Models/modeling
evolution of bacterial transformation, 27
gene conversion in DNA sequences, 89
likelihood approach to microsatellite population samples, one-step mutation vs. multistep mutation model, 711
linkage mapping, robustness of single-gene models, 417
population genetics model of marker-assisted selection, 1173
QTL effects estimation in large complex pedigrees, 409
recombination and gene flux in inversion heterokaryotypes, 695
structure coalescent model, time scales in the coalescent, 1501

Molecular genetics, distylous *Turnera* spp., morph-specific proteins, 669
Mouse
antimorphic behavior of *Clock* mutation, 1049
developmental trajectories, restricted index selection, 629
evolutionary dynamics of *Mhc* class II DR genes, 655
genotype selection to rapidly breed congenic strains, 1061
interactions of *mg, md, McIr,* and *A* mutations, 1407
placental dysplasia in X^pO mice, 1399
Y chromosome vs. mitochondrial DNA coalescence, 1019
Mus spp., placental dysplasia in X^pO mice, 1399
Mus musculus, Y chromosome vs. mitochondrial DNA coalescence, 1019
Mutants/mutagenesis
antimorphic behavior of *Clock* mutation (mouse), 1049
Arabidopsis thaliana X-ray-hypersensitive (*xrs*) mutants, 401
COM1/SAE2, 797
recombination in yeast, 781
constitutive mutations of *Saccharomyces cerevisiae MAL*-activator genes, 1287
cys-9, Neurospora crassa, 101
Dsor1 activities in *Drosophila* and yeast MAP kinase cascades, 263
gene conversion and *TK1* mutations in TK6 human lymphoblastoid cell line, 1429
germ-line effects of mutator *mu2* in *Drosophila melanogaster,* 1381
hyperdeletion in *E. coli* replication mutants, 457
interactions of *mg, md, McIr,* and *A* in mice, 1407
magnesium-sensitive "*Chameleon*" mutants in *Paramecium tetraurelia,* 871
mutations affecting cell adhesion in *Drosophila melanogaster,* 275
mutS, proofreading and human cancer (*Perspectives*), 443
ord mutants in *Drosophila,* 1319
phytoalexin-deficient (*pad*) mutants, resistance in *Arabidopsis*-pathogen interactions, 381
point mutations, homeotic structure-function relationships for *proboscipedia* in *Drosophila* spp., 939
repeat-induced point mutation (RIP), cytosine methylation and gene silencing in *Neurospora crassa,* 509
rga, gibberellin response mutant in *Arabidopsos thaliana,* 1087
spontaneous mutations at *r* locus of maize, 681
temperature-sensitive clock mutant (*period-6*) in *Neurospora crassa,* 525
temperature-sensitive mutation in *Caenorhabditis elegans let-60 ras,* 553
Neurospora crassa
allelic specificity at *het-c* locus, 1299
circadian conidiation rhythm, *cys-9* mutation and, 101
cytosine methylation and gene silencing in, 509
glucose transport and conidiation, *rco-3* in, 499
sexual differentiation, rhamnogalacturonase and, 531
temperature-sensitive clock mutant (*period-6*), 525
Neutrality, test of neutrality based on interlocus genetic associations, 1197

Oogenesis, *Drosophila melanogaster, mu2* effects on chromosomal structure during, 1381
Organismal morphogenesis, *Caenorhabditis elegans, mup-4* in, 165

Palindromic sequences, meiotic recombination in *Saccharomyces cerevisiae,* 835
Paramecium tetraurelia, magnesium-sensitive "*Chameleon*" mutants, 871
Parasitism, *Heterodera glycines,* genetic analysis, 1311
Particle bombardment, transformation in *Tetrahymena thermophila,* 135
P element, effects of *P* element insertion on *yellow* gene expression in *Drosophila,* 583
Perspectives
chromosome changes in cell differentiation, 1
mutS, proofreading and cancer, 443
recombination and population structure in *Escherichia coli,* 745
value of basic research: discovery of *Thermus aquaticus* and other extreme thermophiles, 1207
Pheromones, Bβ1 mat locus in *Schizophyllum commune,* 541
Phylogeography
microsatellite variation in taurine and zebu cattle, 1071
white oaks phylogeography in Europe, 1475
Y chromosome vs. mitochondrial DNA coalescence (mouse), 1019
Phytoalexins, camalexin, in *Arabidopsis*-pathogen interactions, 381
P Instability Factor (PIF), insertion at *r* locus of maize, 681
Placental dysplasia, in X^pO mice, 1399
Plasmids
bacteriophage P22 transduction of low-copy number plasmids, 447
circular DNA plasmid of *Alternaria alternata,* 111
Plasticity, phenotypic plasticity in response to temperature in a latidudinal cline for development time and body size in *Drosophila melanogaster,* 881
Poly-3-hydroxybutyrate (PHB), degradation pathway, *Rhizobium (Sinorhizobium) meliloti,* 1211
Polymorphism
ancestral polymorphism of *Mhc* class II DR genes of mice, 655
chloroplast DNA of white oaks in Europe, 1475

microsatellite polymorphism in *Drosophila melanogaster*, 309
microsatellite polymorphisms in *Arabidopsis thaliana*, 1441
polymorphism for *Y*-linked suppressors of *sex-ratio* in *Drosophila mediopunctata*, 891
protected inversion polymorphism, 717
selection and frequency distributions of "silent" polymorphisms in *Drosophikla*, 295
Population differentiation, genetic differentiation across four classes of gene marker in *Pinus flexilis* James, 1153
Population genetics
coalescent theory for partial selfing population, 1489
effective metapopulation size, 427. *See also* Effective population size
fixation, segregation, and linkage of allozyme loci in inbred oyster families, 321
fixation probability in populations of changing size, 723
microsatellite variability in *Bulinus truncatus*, 973
microsatellite variation in taurine and zebu cattle, 1071
population genetics model of marker-assisted selection, 1173
recombination and population structure in *Escherichia coli* (*Perspectives*), 745
Position-effect variegation, in *Drosophila melanogaster*, RNA helicase and, 951
Proofreading, *mutS*, proofreading and human cancer (*Perspectives*), 443
Protected inversion polymorphism, 717
Protein kinase, mitogen-activated. *See* MAP
Pulsed-field gel electrophoresis, ectopic recombination in haploid yeast, 79

Quantitative trait loci
bristle number QTL (*smooth*) in *Drosophila melanogaster*, 607
flowering time, in *Brassica rapa*, *B. napus*, and *Arabidopsis thaliana*, 1123
genetics of mating system divergence between *Mimulus guttatus* and *M. platycalyx*, 1115
mapping, encapsulation locus in *Anopheles gambiae*, 965
mapping linked QTL using Bayesian linkage analysis and Markov chain Monte Carlo algorithms, 735
QTL effects estimation in large complex pedigrees, 409

ras
Caenorhabditis elegans activated mutation, 553
Ras signaling and homeotic control of segmental differentiation in *Drosophila*, 619
Rattus norvegicus, L1 element recombination, 641
Reactivity levels, DNA repair and, in *Drosophila melanogaster* female germ line, 1333
Recombination
ectopic recombination in haploid yeast, 79
heterologous inserts at double-strand break, shift from two-progeny mode to one-progeny mode, 9
homologous
Ac-induced homologous recombination in maize, 1143
pathways in *Salmonella typhimurium*, 751
L1 element, *Rattus norvegicus*, 641
meiotic
in maize, genetic variability, 1101
palindrome-induced, in *Saccharomyces cerevisiae*, 835
Schizosaccharomyces pombe, *rec14* gene, 1253
in yeast, *REC103* and, 1265
recombination and gene flux in inversion heterokaryotypes, 695
recombination and meiosis in *Saccharomyces cerevisiae*, 481
recombination and population structure in *Escherichia coli* (*Perspectives*), 745
replication-dependent recombination in human fibroblasts, 1417
Saccharomyces cerevisiae, 481
COM1/SAE2 gene, 781
palindrome-induced, 835
Relative ratio test, nucleotide substitution rates among chloroplast loci, 393
Repeat-induced point mutation (RIP), cytosine methylation and gene silencing in *Neurospora crassa*, 509
Restricted index selection, developmental trajectories in mice, 629
Retroposons, short interspersed repetitive elements (SINEs)
horizontal transfer (?) in salmonids, 355
interspecific and intraspecific variation of insertion of *SmaI* in genomes of chum and pink salmon, 369
Retrotransposons, L1 element recombination, *Rattus norvegicus*, 641
Reverse genetic analysis, mutations in *X*-linked genes, 245
Rhamnogalacturonase, sexual development in *Neurospora crassa*, 531
Rhizobium (Sinorhizobium) meliloti, PHB degradation loci, 1211
RNA helicase, position-effect variegation in *Drosophila melanogaster*, 951

Saccharomyces cerevisiae
CIN1,2,4 microtubule-stabilizing pathway, 849
COM1/SAE2 gene, 797
meiotic double-strand break-induced recombination, 781
default mating in, 39
MAL-activator genes, constitutive mutations, 1287
MAP kinase cascades, *Dsor1* activities, 263
microsatellite stabilization by variant repeats, 491

palindrome-induced meiotic recombination, 835
recombination and meiosis in, 481
SAE genes, 781, 797, 817
Salmonella typhimurium, homologous recombination pathways, 751
Salmonid species, short interspersed repetitive elements (SINEs)
homology between *SmaI* and *SmaI-cor* families, 355
interspecific and intraspecific variation of insertion of *SmaI* in genomes of chum and pink salmon, 369
Schizophyllum commune, Bβ1 mat locus, 541
Schizosaccharomyces pombe
mating-type switching, directionality of, 1221
meiosis, *rec16* regulation, 57
mismatch repair in, *pms1* gene and, 1275
rec14 gene, 1253
Segregation
allozyme loci in inbred oyster families, 321
meiotic crossing over and segregation in yeast, 69
Selection
genetic differentiation across four classes of gene marker in *Pinus flexilis* James, 1153
genotype selection to rapidly breed congenic strains (mouse), 1061
marker-assisted, population genetics model, 1173
selection and frequency distributions of "silent" polymorphisms in *Drosophikla*, 295
Y chromosome vs. mitochondrial DNA coalescence (mouse), 1019
Selfing
coalescent process, 1185
genetics of mating system divergence between *Mimulus guttatus* and *M. platycalyx*, QTL mapping, 1115
sex-ratio, polymorphism for *Y*-linked suppressors of *sex-ratio* in *Drosophila mediopunctata*, 891
Sexual differentiation
Chlamydomonas reinhardtii, mid (minus dominance) gene in, 859
in *Neurospora crassa*, rhamnogalacturonase and, 531
Short interspersed repetitive elements (SINEs)
horizontal transfer, homology between *SmaI* and *SmaI-cor* families in salmonids, 355
interspecific and intraspecific variation of insertion of *SmaI* in genomes of chum and pink salmon, 369
Simian virus 40 (SV40) large T antigen, replication-dependent recombination in human fibroblasts, 1417
Spermatogenesis, *Caenorhabditis elegans, spe-5* phenotypic characterization, 567
Spisula ovalis, survival and genotypes in, 335
Stepwise mutation model, microsatellite polymorphisms in *Arabidopsis thaliana*, 1441
Survival, viability-genotype relationships in *Spisula ovalis*, 335

T antigen, replication-dependent recombination in human fibroblasts, 1417
Taq polymerase (*Perspectives*), 1207
Temperature, phenotypic plasticity in a latidudinal cline for development time and body size in *Drosophila melanogaster*, 881
Tetrahymena thermophila, transformation, 135
Thermus aquaticus, discovery of (*Perspectives*), 1207
Transduction, bacteriophage P22 transduction of low-copy number plasmids, 447
Transformation
bacterial, 27
in *Tetrahymena thermophila* by particle bombardment, 135
Transposable elements
Ac-induced homologous recombination in maize, 1143
effects of *P* element insertion on *yellow* gene expression in *Drosophila*, 583
P Instability Factor (PIF), insertion at *r* locus of maize, 681
retroposons, 355. *See also* Retroposons
TE35B in *Drosophila melanogaster*, synapsis and *white* expression, 919
Tropidophoxinellus alburnoides Complex, hybridogenetic reproduction in, 983
Turnera spp., distylous, morph-specific proteins, 669

X chromosome, reverse genetic analysis, mutations in *X*-linked genes, 245
Xenopus laevis, E-protein gene expression, 345
X-rays, DNA damage, *Arabidopsis thaliana* X-ray-hypersensitive (*xrs*) mutants, 401

Y chromosome
geographic variation and molecular divergence (mouse), 1019
polymorphism for *Y*-linked suppressors of *sex-ratio* in *Drosophila mediopunctata*, 891
Yeast. *See also Saccharomyces cerevisiae*
DNA polymerase δ in DNA repair, 1239
ectopic recombination in haploid yeast, 79
meiotic crossing over and segregation, 69
microsatellite instability, length of microsatellite and, 769
REC103 and meiotic recombination in, 1265